

# NASA TECH BRIEF



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## New Brazing Alloy Eliminates Metal-Stress Cracking

**The problem:** To formulate a brazing alloy that will avoid the liquid-metal stress cracking of base metals when applied to 347, 316, and 410 stainless steels and certain other alloys.

**The solution:** A silver 15 zinc brazing alloy that has shown good resistance to corrosion and interface corrosion between itself and the base metals when applied to the above base metals.

**How it's done:** Basic ingredients are in the following percents by weight:

Zinc	13.5-15.0
Copper	*0.93-1.25
Nickel	*0.70-0.94
Silver	Balance

\*The ratio of nickel to copper must not be less than 3/4 to 1.

Standard procedures are used in combining the ingredients and applying the melt.

### Notes:

1. Silver 15 zinc brazing alloy has been used to braze bands to tubes and to patch repair tubes on the J-2

and H-1 thrust chambers. Results after engine tests have shown the brazing alloy to have performed satisfactorily.

2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer  
Western Operations Office  
150 Pico Boulevard  
Santa Monica, California, 90406  
Reference: B65-10397

**Patent status:** NASA encourages the immediate commercial use of this invention. It is owned by NASA and inquiries about obtaining royalty-free rights for its commercial use may be made to NASA, Code AGP, Washington, D.C., 20546.

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